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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,322	11/20/2003	Jason Zhen-Yu Lu	37182-17	3069

7590 07/01/2005

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EXAMINER

GOINS, DAVETTA WOODS

ART UNIT	PAPER NUMBER
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2632

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/719,322

Applicant(s)

LU ET AL.

Examiner

Davetta W. Goins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4, 5 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Hilliard et al. (US Pat. 6,611,210 B2).

In reference to claims 1, 5, Hilliard discloses the claimed plurality of vehicle detectors each having at least one vehicle loop to which that detector can be intermittently coupled for vehicle sampling purposes; and a means for synchronizing the operation of the plurality of vehicle detectors, which is met by two similar inductive vehicle detectors comprising wire-loops configured parallel to each other. Both detectors are triggered simultaneously by the over dash passing vehicle and are sampled at a fixed rate until the vehicle has been determined to have passed completely over the two detectors (col. 10, lines 66, 67; col. 11, lines 1-10).

In reference to claim 2, Hilliard discloses the claimed synchronizing circuitry incorporated in the vehicle detectors for enabling one of the vehicle detectors to control the synchronous operation of the plurality of vehicle detectors, which is met by an inductance measuring means 29, band-

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pass filter 26, analog-to-digital converter 27, and digital signal processor 28; for sampling the inductance of the wire-loops 1 and 4 (col. 8, lines 41-67; col. 9, lines 1-34; Figures 9 and 11).

In reference to claims 4, 7, Hilliard discloses the claimed vehicle detector system is configured for parallel synchronization, which is met by two similar conductor vehicle detectors comprising wire-loops configured parallel to each other (col. 10, lines 66; 67; col. 11, lines 1-10).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Hilliard et al. in view of Lees (US Pat. 6,337,640 B2).

In reference to claims 3, 6, although Hilliard does not disclose the claimed vehicle detector system is configured for series synchronization, he does disclose two two similar conductor vehicle detectors comprising wire-loops configured parallel to each other (col. 10, lines 66; 67; col. 11, lines 1-10). Both detectors are triggered simultaneously by the over dash passing vehicle and are sampled at a fixed rate until the vehicle has been determined to have passed completely over the two detectors (col. 10, lines 66, 67; col. 11, lines 1-10). Lees discloses successive loop sensors 10 and 11 placed along a lane 12 of a roadway parallel from each other (col. 3, lines 19-

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45). The loops may be configured as separate multiple turn windings of opposite hand connected in series (col. 3, lines 62-67; col. 4, lines 1-5). Since both Hilliard and Lees disclose inductive loops embedded along the lane, each having loops in parallel with each other for detecting vehicles passing over the loops, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of placing the loops in series, for sampling in synchronizing manner to ensure that the vehicles passing over will be detected by the loops.

5. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure as follows. Blikken (US Pat. 4,239,415), Lees (US Pat. 6,345,228 B1), Hilliard et al. (US Pat. 6,417,784 B1), Hilliard et al. (US Pat. 6,639,521 B2), and Allen et al. (US Pat. 6,864,804 B1), which disclose vehicle detecting systems.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davetta W. Goins whose telephone number is 571-272-2957. The examiner can normally be reached on Mon-Fri with every other Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.W.G.
June 24, 2005

Davetta W. Goins
Primary Examiner
Art Unit 2632